



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,488	12/19/2003	Marcus David Shelby	80081	2427
40850	7590	07/24/2006	EXAMINER	
ERIC D. MIDDLEMAS EASTMAN CHEMICAL COMPANY P. O. BOX 511 KINGSPORT, TN 37662-5075			SASTRI, SATYA B	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 07/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/743,488	SHELBY ET AL.	
	Examiner	Art Unit	
	Satya B. Sastri	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30, 35 and 36 is/are rejected.
- 7) ☒ Claim(s) 31-34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to amendment filed on May 30, 2006. *Claims 1-36* are now pending in the application.
2. In view of the amendment, rejection of claims 1-5, 28 under 35 U.S.C. 102(b) as anticipated by Masuda et al. (JP56-38367A, English Translation) and rejection of *claims 6-27* under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. (JP56-38367A, English Translation) in view of Buchanan et al. (US 5,292,783) and Warzelhan et al. (US 6,303,677) are all sustained.

Previously Cited Statutes

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. *Claims 29, 30, 35 and 36* are rejected under 35 U.S.C. 102(b) as anticipated by Masuda et al. (JP56-38367A, English Translation).

Prior art to Masuda et al. concerns adhesives comprising 50-97% by wt. of saturated polyester with a melt index at 140°C in the range of 50-400 g/10min and 50-3% by wt. of a vinyl polymer with a melt index at 190°C in the range of 0.5 to 20 g/10min (page 1, claims). The carboxylic acid component may comprise an aliphatic dicarboxylic acid such as adipic acid, azelaic acid, sebacic acid etc. and an aromatic dicarboxylic acid such as terephthalic acid, isophthalic acid, 2,6-naphthalene dicarboxylic acid (page 4). Furthermore, vinyl polymer may

Art Unit: 1713

ethylene-vinyl acetate copolymers of component such as (page 4, lines 18-20). Tables 1 and 2 disclose polyester Ia, Ic and Id that are aliphatic-aromatic polyesters and IIb as the ethylene-vinyl acetate copolymer. Adhesive composition of working example 4 includes a polymer blend with instantly claimed melt index limitations. The limitations less than 5 wt.% includes 0. Thus, the instant claims are anticipated by the prior art.

Allowable Subject Matter

5. ***Claims 31-34*** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Instant claims recite a limitation of less than or 0 wt.% of cellulose ester. Such a composition is not taught or suggested by the combined teachings of the prior art.

Response to Arguments

6. Applicants argue that Matsuda does not teach a polymer blend having a melt index less than the melt index of the polyester. Applicant's attention is drawn to the fact that the prior art invention concerns adhesive compositions that have a high viscosity so as to avoid deep penetration of the adhesive into the fibers (page 7, last paragraph). It is also noted that viscosity and melt index have an inverse relationship (evidence to this end is provided in US Patent 5,567,772, column 1, lines 64-67 and column 2, lines 1-4). Furthermore, on page 3 of Matsuda in the last paragraph, the melt index of polyester ranges from 50-400 g/10 min., and that of the ethylene copolymer ranges from 0.5-20 g/10min. Contrary to applicant's interpretation, the data in Table 3 clearly demonstrates that polyester alone has a melt index value higher than that of the adhesive that contains the blend. The data supports the inventive feature of the prior art, i.e.

Art Unit: 1713

design of adhesives that have a higher viscosity, i.e. lower melt flow index compared to the adhesive with polyester alone so as to avoid penetration of the adhesive into the fibers.

It is the examiner's position that the rejection is well supported and flows quite logically from the prior art date. Mixing a polymer (I) with high melt index with a copolymer (II) having lower melt index can at best result in a blend that would have intermediate values of melt index, absent synergism.

Blends of cellulose and random aliphatic-aromatic copolyesters show enhanced barrier properties and biodegradability (column 5, lines 6-16, column 15, lines 22-27). Thus, Buchanan et al. provide for a motivation to include cellulose based biodegradable additive in the polyester composition. Furthermore, the combinability of the two references (Masuda and Buchanan et al.) is based on the teachings of Warzelhan et al. This reference discloses biodegradable polyester compositions comprising aliphatic and aromatic acid components that may be useful in adhesives, biodegradable moldings etc. (abstract). Thus, the teachings of Masuda and Buchanan et al. are combinable.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

Art Unit: 1713

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri at (571) 272 1112.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached at (571) 272 1114.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SATYA SASTRI

July 19, 2006



DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700